REMARKS

Claims 1-4, 6, 27-31 and 34 are pending.

In the present Amendment, independent Claims 1, 6, 27 and 34 have been amended to change the order of recitation of the transparent conductive layer and the metal circuit layer. Support is found, for example, in the non-limiting embodiment shown in FIG. 1A and the description at page 13, lines 21-25. Claims 1, 6, 27 and 34 have also been amended to recite that "the transparent conductive layer contacts the metal circuit layer inside of the insulating layer and the transparent conductive layer contacts an electrolyte solution via the oxide semiconductor porous film outside of the insulating layer." Support is found, for example, in the non-limiting embodiment shown in FIG. 1A and the description at page 7, lines 16-21 of the specification ("In an actual [or "conventional"] dye-sensitized solar cell [in which the surface of the metal circuit layer ***is not covered*** by the insulating layer], because a circuit electrode is formed on a transparent conductive film, and an oxide semiconductor porous film is provided on top of that, and the space between them is filled with an electrolyte solution that contains iodine or the like, the circuit electrode contacts the electrolyte solution via the oxide semiconductor porous film. As a result, there are cases in which leak current arises due to electrons flowing reversely from the circuit electrode to the electrolyte solution."), and page 8, lines 13-16 of the specification ("According to this electrode substrate [of the presently claimed invention, in which the surface of the metal circuit layer is ***covered*** by the insulating layer], it is ensured that the metal circuit layer is shielded from an electrolyte solution and the like, and corrosion thereof and leak current can be effectively prevented. Thus, the electrode substrate exhibits excellent conductivity."). Accordingly, it is clear that the in the embodiment discussed above, the transparent conductive

layer contacts an electrolyte solution via the oxide semiconductor porous film outside of the insulating layer.

No new matter has been added, and entry of the Amendment is requested.

Claims 1-2 and 6 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Kurth (WO 00/48212) in view of Yoshikawa (U.S. Pub. No. 2002/0040728).

In addition, claims 27-29 and 34 were rejected under 35 U.S.C. 103(a) as being unpatentable over Kurth in view of Yoshikawa, and further in view of Mohri et al. (U.S. Patent No. 4,396,682 (hereinafter "Mohri").

Applicants traverse and request the Examiner to reconsider and withdraw the rejections in view of the following remarks and the amendments to the claims.

According to the Examiner, when the electrode substrate of the present application corresponds to a combination of reference numerals (**2**+**5**+**7**+**10**) in Kurth, the counter electrode of the present application corresponds to reference numeral **6** in Kurth which is not provided with conductive path **8**. Accordingly, the Examiner asserts that the electrode substrate has a different constitution from the counter substrate in Kurth.

Applicants disagree. If the electrode substrate of the present application is regarded as the combination of reference numerals (**2**+**5**+**7**+**10**) in Kurth, the counter electrode of the present application should be regarded as a combination of reference numerals (**3**+**6**+**8**+**10**) in Kurth. In this case, the constitutions of the electrode substrate and the counter substrate in Kurth are the same. Further, the electrode substrate and the counter substrate are only disposed facing each other such that conductive paths **7** and **8** are disposed on conductive layers **5** and **6** of the electrode substrate (**2**+**5**+**7**+**10**) and on the counter electrode (**3**+**6**+**8**+**10**) respectively so as to project inwardly in a staggered manner as shown in FIG. 1 of Kurth. Applicants note that

conductive path **7** is not disposed above conductive path **8**, and conductive path **8** is not disposed below conductive path **7**. Accordingly, in Kurth, conductive path **8** also exists on the counter electrode.

The Examiner cites Yoshikawa as disclosing "an electrolyte layer or charge transfer layer, which is adjacent to the oxide semiconductor porous film." However, the present claims do not recite this structure.

In light of the above, Kurth and Yoshikawa fail to disclose or suggest each of the elements of the present claims.

Furthermore, Claims 1, 6, 27, and 34 provide that "the transparent conductive layer contacts the metal circuit layer inside of the insulating layer and the transparent conductive layer contacts an electrolyte solution via the oxide semiconductor porous film outside of the insulating layer." Kurth, Yoshikawa and Mohri fail to disclose or suggest the same or similar structure. For example, in Yoshikawa, undercoating layer **60**, for the sake of the argument, seems to correspond to the insulating layer of the present application. However, Yoshikawa only discloses embodiments wherein either undercoating layer **60** covers the whole transparent conductive layer **10a** (*see* FIGS. 1 or 3 of Yoshikawa) or undercoating layer **60** is not included. Therefore, Yoshikawa fails to disclose that "the transparent conductive layer contacts the metal circuit layer inside of the insulating layer and the transparent conductive layer contacts an electrolyte solution via the oxide semiconductor porous film outside of the insulating layer."

In Kurth, conductive layer **5**, which for the sake of the argument corresponds to the transparent conductive layer of the present application, contacts metal circuit layer **7** inside of the insulating layer **10**. However, in Kurth, conductive layer **5** contacts electrically conductive layer **11** outside of insulating layer **10** but does not contact an electrolyte solution.

In addition, the following superior technical effects can be obtained by the presently claimed invention as described in the present specification:

> According to the electrode substrate of this embodiment, because the transparent conductive layer **11** and the metal circuit layer **12** are in contact and are electrically connected, electrons from the oxide semiconductor porous film **2** are collected by the transparent conductive layer **11**, and it is possible to further increase the collecting efficiency via the metal circuit layer **12**. The metal circuit layer **12** is securely shielded from the solution of the electrolyte layer **5** or the like, and it is possible to effectively prevent the metal circuit layer **12** from corroding and to restrict leak current. Accordingly, because the electrode substrate **1** can be provided with excellent conduction characteristics, by forming a working electrode of a photoelectric conversion element using an electrode substrate of this embodiment, contact between the metal circuit layer **12** and the electrolyte layer **5** is prevented, reduction outputs caused by corrosion or leak current are suppressed, and it is possible to manufacture a photoelectric conversion element having a high photoelectric conversion efficiency.

See the present specification at p. 19, lines 7-19. Moreover, "reverse electron transfer from the metal circuit layer 24 to the electrolyte solution is inhibited." *See* the present specification at p. 37, lines 13-14.

In sum, Kurth, Yoshikawa and Mohri fail to disclose or suggest the structure recited by Claims 1, 6, 27, and 34, and the superior results obtained thereby.

In view of the above, Applicants request reconsideration and withdrawal of the rejections of the present claims based on Kurth, Yoshikawa and Mohri.

Reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the local, Washington, D.C., telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

/Michael G. Raucci/

Michael G. Raucci
Registration No. 61,444

SUGHRUE MION, PLLC
Telephone: (202) 293-7060
Facsimile: (202) 293-7860

WASHINGTON OFFICE
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